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What is claimed is:

1. A photonic cell comprising:

a base node and

5 a plurality of member nodes, each member node within optical reach from the base node.

2. An optical network as claimed in Claim 1 wherein the base node is within optical reach from at least one of the member nodes.

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3. An optical network as claimed in Claim 1 wherein the base node is within optical reach of the plurality of member nodes.

4. An optical network as claimed in Claim 1 wherein each of the plurality of member nodes is a base node for its own photonic cell.

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5. An optical network comprising;

a plurality of photonic cells, each cell including a base node and

20 a plurality of member nodes, each member node within optical reach from the base node.

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6. An optical network as claimed in Claim 5 wherein each photonic cell overlaps at least one node with at least two other photonic cells.
7. An optical network as claimed in Claim 6 wherein each node in an overlap between two photonic cells includes optical regeneration.
8. An optical network as claimed in Claim 7 wherein the optical regeneration includes optical-electrical-optical conversion.
9. An optical network as claimed in Claim 7 wherein the optical regeneration includes wavelength conversion.